

Eastern Equine Encephalitis (EEE)

Disease Fact Sheet Series

What is an eastern equine encephalitis virus infection?

It is an infection caused by eastern equine encephalitis (EEE) virus, which is spread to people by the bite of a mosquito infected with the virus. Viruses that are spread to people by mosquitoes are called arboviruses. In temperate climates, eastern equine encephalitis virus infections generally occur during warm weather months when mosquitoes are active. Eastern equine encephalitis occurs very infrequently in people with an average of 5 cases a year reported in the U.S. The disease also affects horses and is found primarily east of the Mississippi River in the U.S.

Is eastern equine encephalitis a new disease?

No. This virus was first identified in the 1930's in horse outbreaks in several eastern U.S. states and human cases were documented in the late 1930's in the eastern U.S. Eastern equine encephalitis has been reported sporadically in horses from various areas of the state over the past 30 years. Several human cases have also been reported during that same time period.

Who gets EEE virus infections?

Anyone can get infected with EEE virus. The virus can affect anyone bitten by an infected mosquito.

What are the signs and symptoms of an EEE virus infection?

Most people infected with eastern equine encephalitis virus do not become ill. When symptoms do occur they can range from mild fever and headache to coma. Other symptoms include high fever, fatigue, muscle aches, neck stiffness, tremors, or confusion. Severe cases include inflammation of the brain (encephalitis) which can lead to coma, convulsions, and death. Severe cases rarely occur.

How is EEE virus spread?

This virus is spread by the bite of a mosquito infected with the EEE virus. Mosquitoes get infected with EEE virus by feeding on infected birds. The virus is not spread between horses or from horses to people or between people.

How soon after being bitten by an EEE virus infected mosquito do symptoms occur?

Symptoms usually occur 5 to 15 days after an EEE virus infected mosquito bites a person.

Does past infection with this virus make a person immune?

Yes. Prior infection with EEE virus can provide lifelong immunity to the virus.

Is there a vaccine to protect humans from eastern equine encephalitis?

No. There is no vaccine because the virus occurs so infrequently in people. (There is a vaccine for use in horses.)

What is the treatment for EEE virus infection?

There is no specific treatment for EEE virus infection. A physician may prescribe medications to relieve the symptoms of the illness. In severe cases hospitalization may be required.

What can be done to prevent an infection with EEE virus?

Preventing mosquito bites will prevent EEE virus infection. These measures are particularly warranted in areas where cases of EEE in horses have occurred. Personal protective measures such as limiting the time spent outdoors at dawn and dusk or other times when mosquitoes are active, wearing long-sleeve shirts, long pants, shoes and socks, using insect repellents when outdoors and screening your home to prevent mosquito entry can serve to reduce or prevent mosquito bites.

Reducing mosquito populations will also reduce mosquito bites. In some communities, public funded surveillance and control programs reduce mosquito populations by eliminating mosquito breeding habitat, mosquito larvae or adults. You can also take measures in your own yard or on your property to eliminate standing water where mosquitoes breed. Sources of standing water include old tires, metal cans, ceramic pots, clogged rain gutters, wading pools, pool covers, or birdbaths.